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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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WACHTEL, ALEXIS A

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/601,328

Applicant(s)

BREDA ET AL.

Examiner

Alexis Wachtel

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6 is/are rejected.
- 7) ☐ Claim(s) 5, 7-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Detailed Action***

***Claim Objections***

1. Claim 9 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 9. See MPEP § 608.01(n). Accordingly, the claim 9 will not be further treated on the merits.

Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant fails to how claim 1 is intended to be limited by the phrase “the nature of the latter being chosen according to the applications contemplated for said apparatus”. It appears that the preamble of claim 1 conflicts with the above phrase. Applicant claims in claim 1 that the photochemistry apparatus is used for the production of dental prosthesis. As a result Applicant is limited to apparatuses that can be used for the production of dental prosthesis only.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 2 rejected under 35 U.S.C. 102(b) as being anticipated by GB 2 098 439 A to Rayon et al.

Rayon et al teaches a photochemistry apparatus per claim 1, comprising at least one light source (4) enclosed in a chamber in which are placed objects within which it is wished to carry out photochemical reactions, characterized in that at least one of said light sources consists of a cold cathode tube provided with a luminescent coating (pp.2, Col 1, lines 34-38). Examiner notes that a cold cathode tube such as a low-pressure mercury lamp inherently requires a luminescent coating within its tube to function. Examiner notes that Rayon et al enables for the use of different types of lights sources that can also include high-pressure mercury lamps and lamps capable of giving of UV or visible light (pp.2, Col 1, lines 34-38).

Per claim 2 a photochemistry apparatus characterized in that it includes means (10) enabling said objects to be exposed to the radiation emitted by said light sources as the preparation of said objects in view of said photochemical processing progresses.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1764

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-6 rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2 098 439 A to Rayon et al.

Rayon et al as set forth above fails to teach per claim 3 that the photochemistry apparatus includes means constituted by an access door and a revolving platform on which the said objects are placed, said platform ceasing to turn and said light sources being turned off automatically for as long as said access door is open. However, it is well known in the art that radiation emitting devices such as microwave ovens include mechanisms to prevent the operation of the devices unless their doors are closed. This is done to prevent an operator from being exposed to harmful radiation as well to prevent a waste of energy. In view of this teaching it would have been obvious to have included a mechanism in the apparatus disclosed by Rayon et al that prevents the electrical and mechanical systems from functioning while the door is open. One of ordinary skill would have been motivated by the desire to save energy and improve the safety of the resulting apparatus.

Rayon et al as set forth above fails to teach per claim 4 that the light sources of the photochemistry apparatus include tubes of a winding shape, of different luminance values and/or emitting different light spectra, placed end to end, for optimum exposure of said objects, as regards the light intensities and light wavelengths, during their circular movement in said chamber ensured by means of said revolving platform.

Art Unit: 1764

However, absent a showing of unexpected results having varied the placement of the lights would have been determined through the process of routine experimentation to determine the configuration best suited for exposing a substrate to be treated at the most optimum intensity.

Regarding claim 5, GB 2 098 439 A teaches a photochemistry apparatus equipped with means enabling the speed of rotation of said revolving platform to be varied (Fig. 1, item 18).

With respects to claim 6, Rayon et al fails to teach that the photochemistry apparatus is equipped with means enabling the luminous flux emitted by the light sources to be varied. However, it is well known that varying the intensity of a light source used in a photocuring/photo polymerization apparatus will result with varied cure times. Thus it would have been obvious to one of ordinary skill to have equipped the apparatus disclosed by Rayon et al with means enabling for the luminous flux of the light sources to be varied. One of ordinary skill would have been motivated by the desire to decrease adjust cure times as desired by an operator.

***Prior Art of Record***

7. The following non-relied upon prior art of record is found to be pertinent to Applicant's disclosure:

US 6,441,354  
US 6,605,651  
US 5,521,053  
US 4,873,446  
US 6,002,511  
US 6,441,354  
US 6,168,431  
US 5,912,470

US 4,229,658  
US 4,385,344  
US 4,546,261

***Allowable Subject Matter***

8. Claims 7,8 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 7 and 8, no prior art has been found to teach or suggest a photochemistry apparatus that includes a sensor serving to measure the light intensity received by said objects, and an electronic regulating device, so as to be able to compensate automatically for the variations in luminance of said sources during their useful life by changing the speed of said revolving platform. In particular, common sense dictates that varying rate of rotation of the revolving platform to compensate for decreased light output would do nothing to improve cure time. It would seem that the sensible means by which decreased light output could be compensated for is by increasing curable substrate exposure time rather than an increased rate of platform rotation. Thus, one of ordinary skill would not have contemplated using Applicant's claimed electronic regulating device.

Regarding claim 10, no prior art has been found to teach or suggest a photochemistry apparatus that includes one or more additional revolving platforms, smaller than the first revolving platform and mounted on the latter, and one or more additional light sources with collimated beams, intended for special photochemical reactions, as well as a control logic, the whole being arranged in such a way that the

Art Unit: 1764

large revolving platform can take each small revolving platform from a position located opposite said access door to a position located opposite the additional light source (7) required for one of said special photochemical reactions. The closest prior art to Rayon et al does not contemplate employing a first smaller platform situated on a second larger platform.

### **Conclusion**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Wachtel whose telephone number is 571-272-1455. The examiner can normally be reached on 10:30am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Glenn Caldarola, can be reached at (571)-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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